

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in this application.

**Listing of Claims:**

Claim 1 (currently amended): A device for inducing local bone or cartilage formation, comprising:

a bone morphogenetic protein selected from the group consisting of OP1, OP2, OP3, BMP2, BMP3, BMP4, BMP5, BMP6, BMP9, BMP10, BMP11, BMP12, BMP15, BMP16, DPP, Vgl, 60A protein, GDF-1, GDF3, GDF5, GDF6, GDF7, GDF8, GDF9, GDF10 and GDF11, capable of inducing repair of endochondral bone, or cartilage, chondral, or osteochondral defects;

a ~~non-synthetic, non-polymeric~~ matrix selected from the group consisting of collagen, apatites, hydroxyapatites, tricalcium phosphate, and admixtures thereof; and

a binding agent selected from the group consisting of cellulose and salts thereof;

wherein said binding agent has a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v) concentration of said binding agent.

Claim 2 (canceled).

Claim <sup>2</sup>/~~7~~ (previously presented): The device of claim 1, wherein said bone morphogenetic protein is selected from the group consisting of OP1, OP2, BMP2, BMP4, BMP5, and BMP6.

Claim <sup>20</sup>/~~4~~ (currently amended): A device for inducing local bone and cartilage formation comprising a bone morphogenetic protein comprising an amino acid sequence having at least 70% homology with the C-terminal 102-106 amino acids, including the conserved seven cysteine domain, of human OP1;

a ~~non-synthetic, non-polymeric~~ matrix selected from the group consisting of collagen, apatites, hydroxyapatites, tricalcium phosphate, and admixtures thereof; and

a binding agent selected from the group consisting of cellulose and salts thereof;

wherein said binding agent has a degree of substitution  
of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v)  
concentration of said binding agent; and

wherein said bone morphogenetic protein is capable of  
inducing repair of endochondral bone when implanted together with  
a matrix in a mammal.

<sup>3</sup>  
Claim ~~8~~ (previously presented): The device of claim 1  
wherein said bone morphogenetic protein is OP-1.

<sup>4</sup>  
Claim ~~8~~ (withdrawn): The device of claim 1 wherein said  
device comprises at least two different bone morphogenetic  
proteins.

Claim 7 (canceled).

<sup>5</sup>  
Claim ~~8~~ (original): The device of claim 1 wherein said  
matrix is collagen.

<sup>6</sup>  
Claim ~~8~~ (withdrawn): The device of claim 1 wherein said  
device comprises at least two different matrix materials.

Claim 10 (canceled).

Claim <sup>7</sup>~~11~~ (currently amended): The device of claim 1 wherein said binding agent is ~~selected from the group consisting of alkylcelluloses~~ an alkylcellulose.

Claim <sup>8</sup>~~12~~ (original): The device of claim 1 wherein said binding agent is selected from the group consisting of methylcellulose, methylhydroxyethylcellulose, hydroxyethylcellulose, hydroxypropylmethylcellulose, carboxymethylcellulose, sodium carboxymethylcellulose, hydroxyalkylcelluloses, and admixtures thereof.

Claim <sup>9</sup>~~13~~ (currently amended): The device of claim 1 wherein said binding agent is carboxymethylcellulose or ~~the~~ a sodium salt thereof.

Claim <sup>10</sup>~~14~~ (withdrawn): The device of claim 1 wherein said device comprises at least two different binding agents.

Claim <sup>11</sup>~~15~~ (original): The device of claim 1 further comprising a wetting agent.

Claim 16 (original): The device of claim <sup>11</sup>~~15~~ wherein said wetting agent is saline.

Claim <sup>21</sup>~~17~~ (currently amended): A device for inducing local bone or cartilage formation, comprising at least approximately 1.25 mg of OP-1 and at least approximately 180 mg of carboxymethylcellulose per 1000 mg of collagen matrix, wherein said carboxymethylcellulose has a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% ~~(w/w)~~ (w/v) concentration of said carboxymethylcellulose.

Claim <sup>22</sup>~~18~~ (previously presented): The device of claim <sup>21</sup>~~17~~ comprising at least approximately 2.5 mg of OP-1 per 1000 mg of collagen matrix.

<sup>22</sup> Claim <sup>23</sup>~~18~~ (previously presented): The device of claim <sup>21</sup>~~17~~ or <sup>22</sup>~~18~~ comprising at least approximately 200 mg of carboxymethylcellulose per 1000 mg of collagen matrix.

Claim 20 (previously presented): The device of claim 1 wherein the binding agent to matrix ratio is one part by weight binding agent to 1-10 parts by weight matrix.

Claim <sup>17</sup>~~21~~ (previously presented): The device of claim <sup>12</sup>~~20~~  
wherein the binding agent to matrix ratio is one part by weight  
binding agent to 5 parts by weight matrix.

Claim <sup>18</sup>~~22~~ (previously presented): The device of claim <sup>12</sup>~~20~~  
wherein the binding agent to matrix ratio is one part by weight  
binding agent to 1-5 parts by weight matrix.

Claim <sup>13</sup>~~23~~ (previously presented): The device of claim 1  
wherein the binding agent to matrix ratio is 1-10 parts by weight  
binding agent to 1 part by weight matrix.

Claim <sup>19</sup>~~24~~ (previously presented): The device of claim <sup>13</sup>~~23~~  
wherein the binding agent to matrix ratio is fewer than 10 parts  
by weight binding agent to one part by weight matrix.

Claim <sup>24</sup>~~25~~ (currently amended): The device of claim <sup>21</sup>~~17~~  
<sup>22</sup>~~or 18 or 19~~ further comprising saline.

Claims 26-30 (canceled).

Claim <sup>26</sup>~~31~~ (previously presented): A device for inducing  
local bone or cartilage formation comprising:

OP-1;

collagen matrix; and

carboxymethylcellulose having a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v) concentration of said carboxymethylcellulose.

Claim <sup>27</sup>~~32~~ (currently amended): A kit for inducing local bone or cartilage formation, the kit comprising:

(a) a first receptacle housing a bone morphogenetic protein selected from the group consisting of OP1, OP2, OP3, BMP2, BMP3, BMP4, BMP5, BMP6, BMP9, BMP10, BMP11, BMP12, BMP15, BMP16, DPP, Vgl, 60A protein, GDF-1, GDF3, GDF5, GDF6, GDF7, GDF8, GDF9, GDF10 and GDF11 and a ~~non-synthetic, non-polymeric~~ matrix selected from the group consisting of collagen, apatites, hydroxyapatites, tricalcium phosphates and admixtures thereof, and

(b) a second receptacle housing a binding agent selected from the group consisting of cellulose, and salts thereof,

wherein said binding agent has a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v) concentration of said binding agent.

Claim <sup>28</sup>~~33~~ (previously presented): The kit of claim <sup>27</sup>~~32~~ further comprising a receptacle adapted to house a wetting agent.

Claim 34 (canceled).

Claim <sup>29</sup>~~35~~ (currently amended): A kit for inducing local bone or cartilage formation, the kit comprising:

a first receptacle housing a bone morphogenetic protein selected from the group consisting of OP1, OP2, OP3, BMP2, BMP3, BMP4, BMP5, BMP6, BMP9, BMP10, BMP11, BMP12, BMP15, BMP16, DPP, Vgl, 60A protein, GDF-1, GDF3, GDF5, GDF6, GDF7, GDF8, GDF9, GDF10 and GDF11, a ~~non-synthetic, non-polymeric~~ matrix selected from the group consisting of collagen, apatites, hydroxyapatites, tricalcium phosphates, and admixtures thereof, and a binding agent selected from the group consisting of cellulose, and salts thereof,



wherein said binding agent has a degree of substitution of 0.65-0.90 and a viscosity of about 10-200 cP at a 4% (w/v) concentration of said binding agent.

Claim ~~36~~<sup>30</sup> (previously presented): The kit of claim ~~36~~<sup>29</sup>, further comprising a second receptacle adapted to house a wetting agent.

Claim ~~37~~<sup>14</sup> (previously presented): The device of claim ~~37~~<sup>8</sup>, wherein the amount of the OP-1 ranges from approximately 0.125 mg to 10.0 mg.

<sup>14</sup> Claim ~~38~~<sup>15</sup> (previously presented): The device of claim ~~37~~<sup>14</sup>, wherein the amount of the OP-1 is approximately 3.5 mg.

Claim ~~39~~<sup>25</sup> (new): The device of claim ~~19~~<sup>23</sup> further comprising saline.